

The Cat's Cradle of Eisenhower's UN Speech, Atoms for Peace, Nuclear Arms Control, and Nonproliferation

By

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Introduction

The character of the Atoms for Peace program and the political decisions that shaped it have been the subject of numerous books and scholarly papers. However, many popular narratives of the program begin with the Eisenhower speech, giving the impression that the structure of the program and its consequences were the logical result of the proposals contained in that speech. That approach ignores the political context, both public and private, of the speech, as well as the history of earlier thinking on policies concerning peaceful nuclear activities following the bombing of Hiroshima and Nagasaki. Without an understanding of the historical background, it is difficult to explain properly the motivation, timing, and structure of the speech; why the Atoms for Peace program essentially ignored the basic idea in the speech: and why the program ended up going down a path that was foreseen as leading to proliferation of nuclear weapons by an earlier landmark study of the control of the peaceful atom. This narrative provides the needed, albeit abridged, historical background.

Truman's Message to Congress on the Atomic Bomb

In 1945, in the aftermath of the first use of nuclear weapons in war, discussions about the future of nuclear weapons intensified within the U.S. government. Secretary of War Henry Stimson believed that the post-war relationship between the U.S. and the Soviet Union depended in large measure on how we handled the question of the bomb. At a cabinet meeting he advocated that information about peaceful application of nuclear energy be shared with the Russians on the grounds that the basic knowledge needed to make the bomb would not remain a secret to the Soviets for long. He was supported by Undersecretary of State Dean Acheson and opposed by Secretary of the Navy James Forrestal. In a post-meeting memo to President Truman, Acheson argued that joint development of the bomb by the United States, Great Britain, and Canada "*must appear to the Soviet Union to be unanswerable evidence of an Anglo-American combination against them. A government as powerful and as power-conscious as the Soviet government*" would feel compelled to act as vigorously as possible to restore "*the loss of power*" that the discovery of the bomb had produced. It would most certainly do so if the United States tried to maintain "*a policy of exclusion*". For America to declare itself "*a trustee of the development for the benefit of the world will mean nothing more to the Russian mind than an outright policy of exclusion.*" [1] Elements of this debate were reflected in a message by President Harry S. Truman [2] to the Congress on October 3, 1945, which put in motion the ideas that ultimately led to the Atomic Energy Act of 1946 (the so-called McMahon Act).

Truman's message is notable for containing the first official presidential reference to peaceful use of nuclear energy and its future control. Referring to atomic energy, he stated:

The scientific and industrial knowledge on which this discovery rests...may someday prove to be more revolutionary in the development of human society than the invention of the wheel, the use of metals, or the steam or internal combustion engine.

And a warning:

The release of atomic energy constitutes a new force too revolutionary to consider in the framework of old ideas. We can no longer rely on the slow progress of time to develop a program of control among nations.

And, in a prescient preview of the NPT, which would not come into being for another 25 years, he stated:

The hope of civilization lies in international arrangements looking, if possible, to the renunciation of the use and development of the atomic bomb, and directing and encouraging the use of atomic energy and all future scientific information toward peaceful and humanitarian ends.

Truman then proposed initiating “discussions with Great Britain and Canada, and then with other nations (including, presumably, the USSR), in an effort to effect agreement on the conditions under which cooperation might replace rivalry in the field of atomic power”. He emphasized that the discussions would not involve weapons manufacturing information, but rather “the terms under which international collaboration and exchange of scientific information might safely proceed”.

These references to international collaboration notwithstanding, Truman’s message also proposed the creation of the U.S. Atomic Energy Commission, which would have the power—“to direct future research and establish control of the basic raw materials essential to the development of (atomic energy) whether it is to be used for purposes of peace or war”. In carrying out its mandate, the AEC was “to interfere as little as possible with private research and private enterprise...”

Truman’s message came at a time when the U.S. had a monopoly on nuclear weapons and a head start on nuclear development generally. His subsequent meetings with the Prime Ministers of the UK and Canada resulted in the Agreed Declaration of November 15, 1945 that called for international control of nuclear energy on the grounds of the revolutionary destructiveness of the bomb and the belief of the signers that neither countermeasures nor the maintenance of secrecy offered an adequate prospect of defense. Truman was prepared to negotiate with the Russians as well, but his Secretary of State, James Byrnes, did not favor dealing directly with the Soviets and latched onto a proposal by Vannevar Bush, the organizer of the bomb effort, to have the UN be the forum in which the future of the bomb would be debated. At a meeting in Moscow, the Russians agreed to help create a UN commission on atomic energy.

The Acheson-Lilienthal Report

To formulate American proposals on the policies that the UN commission should adopt, Byrnes asked Acheson to chair a committee, consisting of James Conant, Vannevar Bush, John McCloy, and Leslie Groves. Acheson subsequently appointed a board of consultants to work out the details of proposals to be submitted to the committee. The board of consultants was chaired by David Lilienthal, former head of TVA, and included Robert Oppenheimer, the former scientific director of the Manhattan Project.

After six weeks of intensive work, the board presented the committee with a 57-page report on March 16, 1946 containing some startling conclusions about nuclear development and the risk of nuclear proliferation. They wrote that:

“The development of atomic energy for peaceful purposes and the development of atomic energy for bombs are in much of their course interchangeable and interdependent. From this it follows that although nations may agree not to use in bombs the atomic energy developed within their borders the only assurance that that a conversion to destructive purposes would not be made would be the pledged word and the good faith of the nation itself. This fact puts an enormous pressure upon national good faith. Indeed, it creates suspicion on the part of other nations that their neighbors’ pledged word will not be kept. This danger is accentuated by the unusual characteristics of atomic bombs, namely their devastating effect as a surprise weapon, that is, a weapon secretly developed and used without warning. Fear of such surprise violation of pledged word will surely break down any confidence in the pledged word of rival countries developing atomic energy if the treaty obligations and good faith of the nations are the only assurances upon which to rely.

“Such considerations have led to a preoccupation with systems of inspection by an international agency to forestall and detect violations and evasions of international agreements not to use atomic weapons. For it was apparent that without international enforcement no system of security holds any real hope at all. In our own inquiry into the possibilities of a plan for security we began at this point, and studied in some detail the factors which would be involved in an international inspection system supposed to determine whether the activities of individual nations constituted evasions or violations of international outlawry of atomic weapons.

“We have concluded unanimously that there is no prospect of security against atomic warfare in a system of international agreements to outlaw such weapons controlled only by a system which relies on inspection and similar police-like methods. The reasons supporting this conclusion are not merely technical, but primarily the inseparable political, social, and organizational problems involved in enforcing agreements between nations each free to develop atomic energy but only pledged not to use it for bombs. National rivalries in the development of atomic energy readily convertible to destructive purposes are the heart of the difficulty. So long as intrinsically dangerous activities may be carried out by nations, rivalries are inevitable and fears are engendered that place so great a pressure upon a system of international enforcement by police methods that no degree of ingenuity or technical competence could possibly hope to cope with them. We emphasize this fact of national rivalry in respect to intrinsically dangerous aspects of atomic energy because it was this fatal defect in the commonly advanced proposals for outlawry of atomic weapons coupled with a system of inspection that furnished an important clue to us in the development of the plan that we recommend later in this report.

“We are convinced that if the production of fissionable materials by national governments (or by private organizations under their control) is permitted, systems of inspection cannot by themselves be made “effective safeguards...to protect complying states against the hazard of violations and evasions.”

“It should be emphasized at this point that we do not underestimate the need for inspection as a component, and a vital one, in any system of safeguards – in any system of international controls. In reading the remainder of this section it is essential to bear in mind that throughout the succeeding sections of this report we have been concerned with discovering what other measures are required in order that inspection might be so limited and so simplified that it would be practical and could aid in accomplishing the purposes of security.

“The remainder of this section, however, is concerned with outlining the reasons for our conclusion that a system of inspection superimposed on an otherwise uncontrolled exploitation of atomic energy by national governments (original emphasis) will not be an adequate safeguard.” [3]

The Baruch Plan

On the day the report was presented to the Secretary of State, Acheson learned that Truman had asked a Wall Street speculator and large campaign contributor named Bernard Baruch to sell the plan to the rest of the world. Baruch, who had a famously monumental ego, decided to make significant changes to the plan and promote it as his own. In particular, the notion of international ownership of the means of production of nuclear materials was scuttled on the grounds that it was not in keeping with the American free enterprise system (a concern that was to be raised again in a different context). He also added two provisions that proved fatal: First, he included a provision on veto-proof sanctions (“*swift and sure penalties*”) for violations; and second, America would not relinquish its stockpile of atomic bombs (which, in June 1946, numbered nine [4]) until firm guarantees were in place that no other nation could arm itself with such weapons. Moreover, the U.S. would be allowed to continue to manufacture nuclear weapons until the negotiated guarantees were in place and effective. When asked by Truman what sanctions he had in mind, Baruch said he meant “war”[5] – the first military counterproliferation proposal in U.S. history, and a forerunner of the current situation with Iraq, but totally unrealistic when applied to the Soviet Union in the context of the post-World War II era. {While both countries demobilized after WWII, the U.S. demobilization was much quicker (from 12 million soldiers in June 1945 to 1.5 million in June 1947) as a result of pressure from Congress and the public, accompanied by riots at overseas military bases in January 1946. [6] Moreover, the wartime Joint Intelligence Committee estimated in November 1945 that, in the

event of war between the U.S. and USSR during the period 1946-51, the Red Army would probably overrun most of Europe, Turkey, Iran, and Afghanistan [7]}. Truman was hesitant about accepting all these changes to the Acheson-Lilienthal plan, but acquiesced after Baruch threatened to quit.

On June 14, 1946, at the opening session of the UN Atomic Energy Commission at Hunter College in the Bronx, Baruch set forth his version of the plan with the famous opening words: *“We are here to make a choice between the quick and the dead.”*. What was “dead” at that point were the prospects for acceptance by the Soviets.

The Russians countered with a proposal that would have created a convention to outlaw the use and production of nuclear weapons with destruction of all existing weapons within three months of ratification of the convention. As the cold war intensified, they further proposed that the atomic question not be dealt with except within the framework of general disarmament negotiations.

Baruch didn’t want to negotiate and forced a vote at the end of the year. Unsurprisingly, the Baruch plan was approved by the UN Atomic Energy Commission with only the USSR and Poland abstaining. It was then killed by a Soviet veto in the Security Council. Truman later confessed to Acheson that choosing Baruch *“was the worst mistake I ever made”*. [8] More pithily, Acheson described Baruch’s performance as follows: *“It was his ball and he balled it up”*. [9]

That ended the notion of any American cooperation with the Soviets on nuclear matters at that point. Of course there was little likelihood of an alternate outcome. About a month after Baruch’s presentation of his plan, Congress enacted the Atomic Energy Act of 1946 (sometimes known as the McMahon Act) which created the U.S. Atomic Energy Commission (AEC) and the Joint Committee on Atomic Energy (JCAE), and made secrecy and the non-sharing of nuclear information official U.S. policy by law.

As President Truman requested, everything concerning atomic energy, from uranium ore to nuclear fuel was to come under the authority of, and become the property of, the AEC. Secrecy was to be maintained and the death penalty prescribed for passing secrets to a foreign power. The law was crafted to keep the U.S. government nuclear monopoly intact and to give the U.S. an edge in the further development of nuclear technology via technical denial to others. By giving the JCAE the power of authorization (subsequently enhanced by congressional procedures that, in effect, allowed the JCAE by itself to resolve any discrepancies between Senate and House passed bills concerning nuclear matters that were in conference) and shielding its deliberations from public view, the law essentially put the entire nuclear enterprise into the hands of one congressional committee and the five AEC commissioners who also met behind closed doors. Supporters of an open private sector role in nuclear development were not happy with the new law, which was characterized by Rep. Clare Booth Luce (R-Conn.) as something which *“might have been written by the most ardent Soviet Commissar”*. [10] This comment was undoubtedly not taken lightly by the vehemently anti-Communist chief sponsor of the law, Senator Brien McMahon (D-Conn.), who became Chairman of the JCAE, and once told David Lilienthal that war with the Russians was inevitable and that the thing to do was *“blow them off the face of the earth, quick, before they do the same to us – we haven’t much time”*. [11]

Toward the Industrial Atom

David Lilienthal was named the first Chairman of the AEC, and, although the AEC’s priority was by far the making of weapons, Lilienthal did appoint an Industrial Advisory Group and the AEC began a nuclear power research program. Los Alamos, Oak Ridge, and Argonne Laboratories all began work on test reactors, with a dual focus on weapons production as well as on power. In 1947 the Congress authorized work on a nuclear submarine and a nuclear powered airplane. (The latter literally never got off the ground, and the project died after it was suggested that the problem of prohibitive shielding weight might be solved by using only old pilots who would die of old age before they died of radiation poisoning). At Oak Ridge, a pressurized water reactor designed by Alvin Weinberg and Eugene Wigner, using ordinary water as a moderator as well as a coolant, was developed to power the first nuclear submarine, the USS Nautilus. This and the later developed boiling water reactor contained the basic engineering ideas upon which the U.S.

nuclear power program was built. But, in addition to technical issues, there were serious political issues surrounding the start of the nuclear power program.

Industrial America's dislike of the AEC monopoly over the development of nuclear technology became increasingly profound as hype expanded in the print media about the future glories of nuclear power. (Autos would run for a year on a vitamin-sized nuclear pellet; there would be no more war over oil and gas resources, electricity would be too cheap to meter, etc.). Government control was raised as an issue in the 1948 presidential campaign by the Republican candidate, Thomas E. Dewey; and after Dewey lost, the Industrial Advisory Group of the AEC took up the issue and recommended that the government share nuclear technology information with the private sector. Lilienthal agreed, and some relaxation was made of the stringent rules against sharing information contained in the McMahon Act. The companies that were involved in the weapons program, including Westinghouse, GE, Monsanto and Union Carbide, were anxious to transform their nuclear technical experience into commercial enterprise. Their champion was Lewis Strauss, who, after taking the reins of the AEC a few months after Eisenhower's inauguration in 1953, brokered a joint project between Westinghouse and Duquesne Lighting to build a small power reactor at Shippingport, Pennsylvania. The application for the plant was filed with the AEC in July 1953.

While this was going on in the U.S., other nuclear nations were developing their own plans for power plants. The Soviets were on the verge of operating the first civilian nuclear power station south of Moscow, and the British were building a 100-megawatt plant at Calder Hall that they thought could be the prototype for a commercial station. Concern was rising in the Eisenhower Administration and the Congress that the U.S. was lagging behind in the race to demonstrate the first commercial nuclear plant and take the lead in the marketing of nuclear power stations. But this was not Eisenhower's highest priority at that point in his administration. National Security was, and he was worried about the nuclear arms race. A report prepared during the last year of the Truman Administration would play a pivotal role.

Operation Candor

The U.S. nuclear weapons monopoly had ended on August 29, 1949 when the Soviets successfully tested their own fission weapon and the nuclear arms race had begun. The Defense Department and the Joint Committee on Atomic Energy then proposed major expansions of fissionable material production facilities. A discussion of these proposals was held at the White House with President Truman in January 1952. Attendees were Dean Acheson, Gordon Dean (then-Chairman of the AEC), and then-Secretary of Defense Robert Lovett. When Dean raised the question of whether the size of the expansion was justified, Lovett replied that any excess fissionable material or components produced that were unneeded for weapons could be used for peaceful purposes. Truman then asked Dean if it was not true "*that the nuclear components could be converted to civilian use*". [12] Dean replied that it was true, marking perhaps the first recorded instance of an U.S. president discussing (albeit in a very tentative and future-oriented way) the idea of possibly converting nuclear weapon stockpile material toward peaceful uses.

As the nuclear stockpiles of both the U.S. and the Soviets began growing rapidly, concerns began to grow about the possibility of whether and when the Soviets would be able to deliver what was then referred to as a "knockout blow" to the U.S., i.e., a nuclear strike that would wipe out the U.S. industrial base and ability to retaliate. In April 1952, Secretary of State Dean Acheson established an advisory committee headed by Robert Oppenheimer to see if there were any new paths that might be tried toward nuclear disarmament or nuclear arms regulation. The panel filed its report on January 15, 1953, shortly before Eisenhower was inaugurated as President.

The panel's report concluded that the large increases in production of fissile material had made it virtually impossible to verify a nuclear disarmament agreement because of the uncertainty in accounting for all the material that had been produced. (Years later, the action of the South African government to dismantle its nuclear weapons and its production facilities raised the same question of accountability. The IAEA, after a two year investigation, ultimately decided that although the agency could not achieve an accurate accounting of all the produced material, their technical assessments and measurements gave them confidence that the amounts of HEU declared by South Africa were consistent with the scope of the weapons program and the amounts that South Africa could have produced. Lacking any information of

undeclared facilities, the IAEA concluded that the South African program had been fully dismantled. More recently, the government of UK issued a report that concluded that, because of missing records, lax record accounting standards, and inadequate technology and equipment for conducting technical assessments and measurements in the early years of the British bomb program, along with the known problems with material accounting in both the South African and U.S. nuclear weapons programs, “...*the Government does not believe that it will ever be possible for any of the (weapon) States to be able to account with absolute accuracy and without possibility of error or doubt for all the fissile material they have produced for national security purposes.*” [13]).

Seeing no immediate path to verifiable nuclear disarmament, the Oppenheimer committee warned that there was significant danger of a Soviet knockout blow capability within the succeeding few years, and that until the U.S. had a sufficiently robust defensive and offensive capability, the danger would persist. At the same time, they felt that negotiated efforts to end the arms race were important and that public support for such efforts would come if people were told of the dangers they faced. The committee’s main recommendations were threefold: First, to publicly discuss the coming crisis; second, to release information on the extent of the U.S. arsenal and its rate of weapons manufacture in order to both inform the public and to dissuade the Soviets from thinking that they might already have a knockout blow capability; and third, to begin negotiations with the Soviets on an arms control measure limiting each side’s weapons stockpile and delivery vehicles.

Then-White House Assistant for International Affairs C.D. Jackson, whose main job was Eisenhower’s speechwriter and purveyor of ideas on scoring propaganda points against the Soviet bloc, was asked to produce a presidential address on Oppenheimer’s ideas, which Jackson dubbed Operation Candor. Working with the State Department, Jackson had completed a few drafts when the first Soviet test of a thermonuclear weapon was announced on August 12, 1953, just nine months after the first U.S. test the previous November. This galvanized the opponents of Operation Candor, who ultimately included members of Eisenhower’s cabinet and Lewis Strauss, who had recently become Chairman of the AEC. They feared that a public description of the peril faced by the American people from nuclear weapons would increase anxiety (already growing at the time) without providing a solution to the threat. There was also opposition from the Joint Chiefs, who were concerned that any discussions of arms limitation might be an impediment to their push for a larger military budget based on the so-called “new look” that involved greater reliance by the military on nuclear weapons. In addition, Eisenhower himself found Jackson’s early drafts, which were rife with visions of nuclear destruction on both sides, empty of the notion of “*hope*”.[14] Eisenhower’s appointment of Jackson, a former active participant in Radio Free Europe, as his speechwriter indicated the extent of his awareness of the power of public opinion, and he was looking for something that would calm the growing fears about nuclear weapons, especially in the wake of the Soviet thermonuclear test.

Eisenhower’s UN Speech: A Nuclear Arms Control Proposal

The following month, in a deft move that avoided the identified political pitfalls, Eisenhower came up with the idea of having both sides begin to set aside agreed amounts of nuclear materials from the weapon stockpiles for peaceful purposes, i.e., create a uranium “bank” to be administered by an international agency (subsequently named in the speech as the “*Atomic Energy Agency*”). Because it was thought at the time that the amounts of uranium in the world were extremely limited, Eisenhower believed the “bank” could theoretically reduce the threat of nuclear war by reducing weapon stockpiles, i.e., that there was, in essence, a zero sum game between uranium for peaceful purposes and uranium for weapons. In his diary, Eisenhower wrote: “*The United States could unquestionably afford to reduce its atomic stockpile by two or three times the amounts that the Russians might contribute...and still improve our relative position in the cold war and even in the event of the outbreak of war*”[15]. He suggested to Strauss that they come up with a figure of the amount of material to be turned over to the bank that the U.S. could handle from its stockpile “*but which would be difficult for the Soviets to match*” [16]. No such bottom-line figure was ever proposed, mainly because there was no reliable intelligence as to Soviet production capacity, and it began to become evident that there was a lot more uranium in the world than was originally thought.

The idea of the “bank” was the genesis of the “Atoms for Peace” speech that Eisenhower delivered to the UN in December. At its core, it was an arms control measure that had the twin virtues of not requiring inspections of the Soviets while being a great propaganda initiative that showed the ultimate desire of the U.S. to use nuclear energy for peaceful purposes. Soviet rejection of the idea would have presumably labeled them as being uninterested in nuclear arms control. The Soviets, in fact, didn’t reject the proposal out of hand (and applauded Eisenhower’s speech at the UN) but gave their own propaganda spin on it by pointing out that Eisenhower was not proposing to outlaw nuclear weapons, which they had proposed earlier.

That Eisenhower’s focus on his proposal was as an arms control measure is supported by an entry in his diary made two days after the speech in which he said that the underlying reason for the speech was “*the clear conviction that the world was racing toward catastrophe*”[17] and that something had to be done to put a brake on this movement. [His sensitivity to public opinion about the nuclear arms race and nuclear testing also explains his later decision to join the Soviets in the nuclear test moratorium of 1958 and its subsequent extension, in the face of opposition by his Secretary of Defense, Secretary of State, and Chairman of the AEC. [18] In response to internal opposition to the idea, Eisenhower said, in a secret meeting in April 1958 that “*continued rigidity on nuclear testing may well lead to [the] moral isolation of the United States*” [19]. In August 1953, John Foster Dulles explained the Administration’s decision on the moratorium in a letter to British Prime Minister Harold Macmillan. The letter stated that “*our standing in the world is at a point where there is real danger to us in being adjudged militaristic. That danger can have consequences as serious as the foregoing of some nuclear weapons knowledge*”[20]. The moratorium then went forward in October].

The Eisenhower “bank” proposal, made in September 1953, was worked on over the next three months by a group of advisers, who included C.D. Jackson, Lewis Strauss, and John Foster Dulles.

Eisenhower’s notion of the proposed Atomic Energy Agency devising methods for the allocation of contributed fissionable materials for peaceful purposes, including applications to agriculture and medicine, and especially “to provide abundant electrical energy in the power-starved areas of the world”, contained no details as to exactly how such a program would be carried out. It did not preclude a role for the private sector, but it seemed to suggest that this international agency would control the pace and direction of peaceful nuclear activities carried out in a substantial part of the world. This was definitely not the vision of the nuclear business community at the time.

There is no question that Eisenhower’s proposal presented an intrinsically attractive vision to anyone in a world worried about atoms for war. But the large worldwide outpouring of support for the atoms for peace idea following Eisenhower’s speech was at least partially due to a very extensive and very effective public relations campaign organized by C.D. Jackson to maximize exposure of the speech and the ideas contained in it. A pamphlet containing the speech was produced in ten languages and hundreds of thousands of copies were sent out by U.S. businesses; American and foreign language media were inundated with information and advertising; and the USIA and Voice of America gave their highest level of focus to the speech. This campaign was so successful that it eclipsed the fact that the “bank” proposal was preceded in the speech by a long qualitative and semi-quantitative description of the destructive power of the current American nuclear arsenal: “*Today, the United States’ stockpile of atomic weapons, which, of course, increases daily, exceeds by many times the explosive equivalent of the total of all bombs and all shells that came from every plane and every gun in every theater of war in all of the years of World War II.*” Ending with: “*The retaliation capabilities of the United States are so great that...an aggressor’s land would be laid waste*” [21]. Thus, although Operation Candor had been abandoned, Eisenhower’s speech did manage to address simultaneously the problem of a possible mistaken Soviet view of its “knockout blow” capability, while addressing the fear of a boundless nuclear arms race.

The Atoms for Peace Program

Popular support for the notion of atoms for peace notwithstanding, the uranium bank proposal languished. The Soviets believed that the bank was a propaganda tool and they were wary of the arguments used to promote it. Four months after Eisenhower’s speech, Soviet Foreign Minister Molotov delivered an aide-

memoir to Secretary of State Dulles in Geneva that said in essence that the process of producing plutonium while making electricity meant that peaceful uses of nuclear energy would not lead to a reduction in the amount of fissile materials available for nuclear weapons.

But there was now considerable political momentum in America for an atoms for peace program, even though the idea was stemming from an arms control proposal that some members of the AEC did not even know about in advance of the completion of the speech (three members subsequently resigned over this). Many members of the public already thought that nuclear power stations were an imminent reality, and the Congress wanted to respond to the euphoria being generated about the prospects of the peaceful atom. However, reflecting the views of Lewis Strauss, the nascent nuclear industry, and Republican philosophy generally, neither the Congress nor the White House wanted the government to be the owner of the commercial sized reactors that were being contemplated for the future. Accordingly, if large-scale commercial nuclear applications were to become a reality, the nuclear technology information sharing that was already going on to a limited extent would have to be significantly expanded.

The first order of business became amending the McMahon Act to greatly reduce nuclear secrecy. This was done via the 1954 Atomic Energy Act, which implemented a different view of atoms for peace than that contained in the Eisenhower speech. Nuclear materials and data relating to their civil applications could now be transferred to friendly countries directly via agreements for cooperation entered into and approved by the AEC. These agreements would carry with them U.S. rights to verify by inspection the use to which any transferred materials were put. (The 1954 Act also promoted domestic commercial nuclear power by allowing utilities to finance, build, and own nuclear power reactors with fuel provided by the AEC, and barring the government from selling power generated by its research or military reactors).

Thus, regardless of the credit that Eisenhower deserves for his call to promote peaceful uses of the atom (and his speech definitely galvanized the public debate over control of nuclear development), the Atoms-For-Peace program as the world has come to know it is not the uranium bank he proposed, but the succeeding collection of agreements on bilateral technical cooperation and information exchange, backed up by a safeguards system that ultimately became the domain of the IAEA after it was formally created by the UN in 1956.

Atoms for Peace was seen by many in the U.S. government and private industry to be the umbrella under which the vision of a U.S. dominated world nuclear market would be realized. Under Atoms for Peace the U.S. proceeded to sign agreements for cooperation with numerous countries that resulted in the sales of large numbers of research reactors and participation of large numbers of foreign nuclear scientists and engineers in U.S.-approved nuclear research projects. Many nuclear scientists in countries that became of proliferation concern later on received training in nuclear technology in the U.S. or with U.S. funding. The first country to sign an agreement for cooperation was Turkey. The second was Israel.

Proliferation Consequences of the Atoms for Peace Program

Following the passage of the 1954 Act, the U.S. proposed a UN Conference on the Peaceful Uses of Atomic Energy. It took place in Geneva in August 1955, and was the largest scientific meeting ever held, with an estimated 25,000 participants. The atmosphere was euphoric and much information previously held secret was shared in public sessions. French scientists revealed the process of plutonium extraction and the U.S. declassified significant amounts of data and technology for presentation at the meeting, which was presided over by Dr. Homi Babha, the “father” of India’s future nuclear weapons program.

In bilateral discussions prior to the meeting the Soviets had agreed to support the creation of the Atomic Energy Agency, and even pledged to contribute a small amount of fissile material to it.[22] But they had no intention of digging deeply into their stockpile of fissile material to make the “bank” anything other than a symbolic shell. They used the Geneva meeting to announce their cooperation with the U.S. and others in forming the agency.

The countries interested in the agency met in 1956 in Geneva and the organization's statutes were, after a month of rancorous debate, adopted in the fall of that year. The agency, now officially named the International Atomic Energy Agency (IAEA), was to have powers of safeguards and inspection.

One of the main points of contention during the negotiations had to do with whether the IAEA would have the power to control Plutonium stocks, i.e., to fix the amount of Plutonium each country should be allowed to keep for safeguarded civil uses. The U.S. favored this; the Indians opposed it, joined by the Soviet Union. A Swiss/French compromise was offered and adopted that basically gave the Indians what they wanted – complete retention of all the Plutonium made in their country.

Another issue was whether safeguards and inspections would apply to natural uranium as well as enriched uranium. The U.S. favored it, the Indians didn't. The Indians prevailed.

Thus, we ended up with a system in which each nation was free to have its own nuclear program and receive nuclear assistance subject to a system of inspection and material accounting—precisely the system that the Acheson-Lilienthal report said would not work to prevent proliferation. It is fair to view many if not all the subsequent institutional additions to the nonproliferation regime as it existed at the beginning of atoms-for-peace, including the NPT, the Nuclear Supplier Agreements, the upgrading of IAEA safeguards, and the passage of export control legislation in the U.S. and elsewhere, as needed “fixes” to the regime stemming from the decision, which may have been inevitable, to reject the Acheson-Lilienthal recommendations.

There is no doubt that peaceful nuclear technology worldwide has produced significant benefits for human beings. But the Faustian bargain spoken of by the former director of Oak Ridge, Alvin Weinberg, in a famous paper many years ago is still extant, and not just in terms of the extraordinary needed longevity of human institutions to safely handle radioactive materials and wastes with long half-lives. The spread of nuclear weapons to dangerous and unstable areas of the world, and possibly to terrorists, is a cost whose dimension still cannot be fathomed. Once nuclear weapons were invented and used, it was surely only a matter of time before nations either under threat or a desire for power and prestige would seek to obtain such weapons.

While that suggests the inevitability of proliferation, it is legitimate to ask whether the early years of Atoms for Peace accelerated proliferation, thereby producing more advanced arsenals today among some proliferators than would otherwise have been the case.

On the question of accelerated proliferation, the jury has been in for some time. While India's interest in nuclear weapons was spurred by their security concerns involving China, the timetable of the Indian program was surely advanced by: (1) The participation of more than a thousand Indian scientists between 1955 and 1974 in U.S. nuclear energy research projects[23]; and (2) The sale of U.S. heavy water to India in the 60's that was used in the unsafeguarded Canadian reactor that produced the plutonium for India's first nuclear explosion; and (3) U.S. assistance in the building and fueling of the Tarapur reactors. As Homi Sethna, who was Chairman of the Indian Atomic Energy Commission from 1972-83, once wrote: “*I can say with confidence that the initial cooperation agreement itself has been the bedrock on which our nuclear program has been built*”. [24]

Although Israel received its nuclear weapons production facilities from the French in a conscious act of proliferation, the historical record of the Israeli program reveals that their chief weapons scientist, David Bergmann, initially contemplated using the Atoms for Peace program to provide Israel with a reactor that Israeli scientists would modify to produce plutonium for a weapons research program [25]. There is no reason to believe that this proposed (mis)use of Atoms for Peace did not occur to other countries. For example, Pakistan's nuclear program did not even begin until the mid-50s, specifically in response to the Atoms for Peace initiative. And we need look no further than the examples of Iran and Iraq to find members of the NPT who have evidently used their membership and Article IV of the Treaty (the Treaty's incorporation of the Atoms for Peace philosophy) to receive nuclear technology and materials from a number of countries, including the United States, that are useful in creating a nuclear weapons program or capability.

The world has evidently paid a price for the euphoric embrace of Atoms for Peace in its early years when technical diffusion was celebrated and unaccompanied by adequate consideration of proliferation risks. If there is a silver lining, it is that our painful experience has had a salutary effect in producing support for strengthened safeguards and intrusive inspections, and in creating stronger regimes for controlling the spread of other weapon-related technologies.

One lesson from this experience that seems to have been learned incompletely, at least by those who still harbor the notion that Article IV of the NPT requires the Nuclear Weapon States to share technology for producing separated fissile material with Non-Weapon States, is that while the pace of diffusion of new technology is affected by policy decisions, by the same token, policy decisions can be driven by the availability of technology. This is what the Acheson-Lilienthal report meant when it spoke of some states being “tempted” to consider making nuclear weapons if they have a national nuclear energy program.

Nowhere is this more starkly illustrated than in a letter written immediately following the August 1955 Geneva conference by Amos de Shalit, one of Israel’s top nuclear physicists, to Munya Mardor, then-head of research and planning at the Ministry of Defense. The letter commented negatively on the previously mentioned plan of David Bergmann to wrap Israel’s desire to obtain separated Plutonium within a benign-looking interest in nuclear experimentation using a nuclear reactor that might be obtained from the United States under the Atoms for Peace program. The letter stated:

“We should forget about submitting a plan which does not indicate the real purposes. Practically all the people with whom we talked were fully aware of the problem of plutonium, and it is evident that the issue cannot be snuck in through talk about fissile products, power plants, etc. I do not think that there is anyone among the responsible individuals in the United States who would believe that a state which was in possession of a large scale plutonium separation capacity, and which would have the objective capabilities of doing so, would not exploit its knowledge for military purposes or at least conduct experiments in that direction. For this reason it should be clear that to the extent that we would be allowed or helped in research involving plutonium separation it would mean that we were being actively helped in nuclear weapons research.” [26].

If nothing else, De Shalit’s letter reinforces the notion that care in promoting technical diffusion is an ongoing requirement regardless of the projected benefits that may accrue in peaceful uses of nuclear energy.

Ironically, even if Eisenhower’s original idea of the “bank” didn’t come to fruition, the current programs of dismantlement of nuclear weapons by the U.S. and Russia have the potential of morphing into a new realization of his vision via incorporation of at least some of the retrieved nuclear materials into fuel for civilian power reactors. The ultimate extension of Eisenhower’s vision would be a world where nuclear energy is used only for peaceful purposes. In that sense, it may be that we shall have to wait until the aims of Article VI of the NPT have been realized before one can say that his idea of atoms for peace has reached its zenith.

References

- [1] J. Chace, *Acheson: The Secretary of State Who Created the American World*, Simon and Schuster, New York, 1998, p.127
- [2] H. S. Truman, “Policy Covering The Use and Development of the Atomic Bomb”, A message from the President [of the United States to the Congress, October 3, 1945
- [3] “A Report on the International Control of Atomic Energy”. U.S. Government Printing Office, Washington, D.C. March 16, 1946. Available as Department of State Publication 2498.

- [4] D. Rosenberg, "U.S. Nuclear Stockpile, 1945 to 1950", *The Bulletin of the Atomic Scientists*, May, 1982, pp. 25-30
- [5] J. Chace, *Op. Cit.*, p.127
- [6] R. A. Pollard, *Economic Security and the Origins of the Cold War, 1945-1950*, Columbia University Press, New York, 1985, pp.20-21
- [7] JIC 250/5, *Soviet Capabilities*, 15 November 1945, ABC 336 Russia (22 August 1943) Sec 1-A, RG 165, National Archives College Park, MD
- [8] J. Chace, *Op. Cit.*, p.128
- [9] *Ibid.*, p.128
- [10] W. Lanouette, "Atomic Energy 1945-1985", *The Wilson Quarterly*, winter, 1985, p.100
- [11] D. McCullough, *Truman*, Simon and Schuster, New York, 1992, p.761
- [12] P. Pringle and J. Spigelman, *The Nuclear Barons*, Holt Rinehart and Winston, New York, 1981, p.104
- [13] "Historical Accounting and Plutonium", A Summary Report by the UK Ministry of Defense, 2000
- [14] S. Ambrose, *Eisenhower the President*, Simon and Schuster, New York, 1984, p.133
- [15] *Ibid.*, p.134
- [16] P. Pringle and J. Spigelman, *Op. Cit.*, p. 124
- [17] S. Ambrose, *Op. Cit.*, p.134
- [18] R. Hewlett and J. Holl, *Atoms for Peace and War 1953-1961: Eisenhower and the Atomic Energy Commission*, University of California Press, Berkeley, 1989, p.546
- [19] L. Wittner, "Blacklisting Schweitzer", *Bulletin of the Atomic Scientists*, Vol.51, No.3, 1995
- [20] *Ibid.*
- [21] D. D. Eisenhower, "Atomic Power for Peace", An Address by the President of the United States before The General Assembly of the United Nations, December 8, 1953
- [22] H. Sokolski, "The Arms Control Connection", in J. Pilat et al (Eds.), *Atoms for Peace: An Analysis After Thirty Years*, Westview Press, Boulder, 1985, p.43.
- [23] J. A. Yager (Ed.), *Nonproliferation and U.S. Foreign Policy*, The Brookings Institution, Washington, D.C., 1980, p.216
- [24] H. Sethna, "Opening the door to Nuclear Development", in J. Pilat et al (Eds.), *Op. Cit.*, p.102
- [25] A. Cohen, *Israel and the Bomb*, Columbia University Press, 1998, p.45
- [26] *Ibid.*, p.46

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